WHAT IS CLAIMED IS:

1. A method of detecting diseased tissue comprising:

recording first and second series of infrared images of a predetermined area of tissue, the first and second series of infrared images recorded in respective first and second bands of infrared wavelengths, the second band of infrared wavelengths different from the first band of infrared wavelengths;

converting the first and second series of infrared images into corresponding first and second series of thermal images having a plurality of subareas;

determining a first plurality of average temperature values for each of the plurality of subareas, each of the first plurality of average temperature values for each of the plurality of subareas determined from a corresponding one of the first series of thermal images;

determining a first average temperature using the first plurality of average temperature values;

determining a second plurality of average temperature values for each of the plurality of subareas, each of the second plurality of average temperature values for each of the plurality of subareas determined from a corresponding one of the second series of thermal images;

determining a second average temperature using the second plurality of average temperature values; and

analyzing the first and second pluralities of average temperature values for each of the plurality of subareas,

wherein when a spatial distribution of the first plurality of average temperature values corresponding to a cluster comprising at least six adjacent subareas is less than about 20% or more than about 100% of the first average temperature, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when the tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of the second plurality of average temperature values corresponding to the cluster is less than about 20% or more than about 100% of the

second average temperature, tissue corresponding to the cluster is confirmed to be diseased.

2. A method of detecting diseased tissue in accordance with claim 1, wherein analyzing the first and second pluralities of average temperature values for each of the plurality of subareas further includes:

determining a first contributing frequency of the first plurality of average temperature values for each of the plurality of subareas using the first series of thermal images;

determining first lower and upper threshold frequencies using the first contributing frequency of each of the subareas;

determining a second contributing frequency of the second plurality of average temperature values for each of the plurality of subareas using the second series of thermal images; and

determining second lower and upper threshold frequencies using the second contributing frequency of each of the subareas,

wherein when a spatial distribution of first contributing frequencies of the cluster is less than the first lower threshold frequency or more than the first upper threshold frequency, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second contributing frequencies of the cluster is less than the second lower threshold frequency or more than the second upper threshold frequency, tissue corresponding to the cluster is confirmed to be diseased.

3. A method of detecting diseased tissue in accordance with claim 1, wherein analyzing the first and second pluralities of average temperature values for each of the plurality of subareas further includes:

determining a first contributing frequency of the first plurality of average temperature values for each of the plurality of subareas using the first series of thermal images;

determining a first average amplitude using the first contributing frequency for the plurality of subareas;

determining a second contributing frequency of the second plurality of average temperature values for each of the plurality of subareas using the second series of thermal images; and

determining a second average amplitude using the second contributing frequency for the plurality of subareas,

wherein when a spatial distribution of first amplitudes of first contributing frequencies of the cluster is less than about 20% or more than about 100% of the first average amplitude, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second amplitudes of second contributing frequencies of the cluster is less than about 20% or more than about 100% of the second average amplitude, tissue corresponding to the cluster is confirmed to be diseased.

4. A method of detecting diseased tissue in accordance with claim 1, wherein analyzing the first and second pluralities of average temperature values for each of the plurality of subareas further includes analyzing the first and second pluralities of average temperature values for each of the plurality of subareas using a fast Fourier transform analysis.

5. A method of detecting diseased tissue comprising:

recording first and second series of infrared images of a predetermined area of tissue, the first and second series of infrared images recorded in respective first and second bands of infrared wavelengths, the second band of infrared wavelengths different from the first band of infrared wavelengths;

converting the first and second series of infrared images into corresponding first and second series of thermal images having a plurality of subareas;

determining a first plurality of average temperature values for each of the plurality of subareas, each of the first plurality of average temperature values for each of the plurality of subareas determined from a corresponding one of the first series of thermal images;

determining a second plurality of average temperature values for each of the plurality of subareas, each of the second plurality of average temperature values for each of the plurality of subareas determined from a corresponding one of the second series of thermal images;

taking first and second radiance measurements at respective first and second bands of infrared wavelengths of known healthy tissue;

correlating the first and second radiance measurements of known healthy tissue;

correlating the first and second plurality of average temperature values for each of the plurality of subareas; and

analyzing the correlated first and second plurality of average temperature values for each of the plurality of subareas,

wherein when a spatial distribution of slopes of the correlated first and second plurality of average temperature values corresponding to a cluster comprising at least six adjacent subareas is different from a slope of the correlation of known healthy skin, tissue corresponding to the cluster is determined to be diseased.

6. A method of detecting diseased tissue in accordance with claim 5, wherein the first and second radiance measurements are taken as a function of the group consisting of integration time, temperature and a combination thereof.

7. A method of detecting diseased tissue in accordance with claim 5,

wherein the first and second radiance measurements of known healthy tissue are correlated at a neuronal frequency, and

wherein the first and second plurality of average temperature values are correlated at the neuronal frequency.

8. A method of detecting diseased tissue in accordance with claim 5,

wherein the first and second radiance measurements of known healthy tissue are correlated at a nitric oxide-controlled frequency, and

wherein the first and second plurality of average temperature values are correlated at the nitric oxide-controlled frequency.

9. A method of detecting diseased tissue in accordance with claim 5, wherein the first and second series of infrared images of the predetermined area of tissue are recorded when the predetermined area of tissue is subjected to a thermal stress.

10. A method of detecting diseased tissue in accordance with claim 9, wherein the thermal stress is induced by a flow of air.

11. A method of detecting diseased tissue in accordance with claim 9, wherein the thermal stress is induced by a water mist.

12. A method of detecting diseased tissue comprising:

recording first and second series of infrared images of a predetermined area of tissue, the first and second series of infrared images recorded in respective first and second bands of infrared wavelengths, the second band of infrared wavelengths different from the first band of infrared wavelengths;

converting the first and second series of infrared images into corresponding first and second series of thermal images having a plurality of subareas;

determining a first plurality of average temperature values for each of the plurality of subareas, each of the first plurality of average temperature values for each of the plurality of subareas determined from a corresponding one of the first series of thermal images;

determining a second plurality of average temperature values for each of the plurality of subareas, each of the second plurality of average temperature values for each of the plurality of subareas determined from a corresponding one of the second series of thermal images;

taking first and second radiance measurements at respective first and second bands of infrared wavelengths of known healthy tissue;

correlating the first and second radiance measurements of known healthy tissue;

correlating the first and second plurality of average temperature values for each of the plurality of subareas; and

analyzing the correlated first and second plurality of average temperature values for each of the plurality of subareas,

wherein when an intercept of the correlated first and second plurality of average temperature values corresponding to a cluster comprising at least six adjacent subareas is different from an intercept of the correlation of known healthy skin, tissue corresponding to the cluster is determined to be diseased.

13. A method of detecting diseased tissue in accordance with claim 12, wherein the first and second radiance measurements are taken as a function of the group consisting of integration time, temperature and a combination thereof.

14. A method of detecting diseased tissue in accordance with claim 12,

wherein the first and second radiance measurements of known healthy tissue are correlated at a neuronal frequency, and

wherein the first and second plurality of average temperature values are correlated at the neuronal frequency.

15. A method of detecting diseased tissue in accordance with claim 12,

wherein the first and second radiance measurements of known healthy tissue are correlated at a nitric oxide-controlled frequency, and

wherein the first and second plurality of average temperature values are correlated at the nitric oxide-controlled frequency.

16. A method of detecting diseased tissue comprising:

recording first and second series of infrared images of a predetermined area of tissue, the first and second series of infrared images recorded in respective first and second bands of infrared wavelengths, the second band of infrared wavelengths different from the first band of infrared wavelengths;

converting the first and second series of infrared images into corresponding first and second series of thermal images having a plurality of subareas;

determining a first plurality of average temperature values and a first plurality of temperature standard deviations for each of the plurality of subareas, each of the first plurality of average temperature values and each of the first plurality of temperature standard deviations corresponding to each of the plurality of subareas determined from a corresponding one of the first series of thermal images;

determining a second plurality of average temperature values and a second plurality of temperature standard deviations for each of the plurality of subareas, each of the second plurality of average temperature values and each of the second plurality of temperature standard deviations corresponding to each of the plurality of subareas determined from a corresponding one of the second series of thermal images;

for each of the plurality of subareas, dividing each corresponding one of the first plurality of average temperature values by a corresponding one of the first plurality of temperature standard deviations thereby determining a corresponding one of a first plurality of homogeneity of skin temperature values for the plurality of subareas;

determining a first average homogeneity of skin temperature value from the first plurality of homogeneity of skin temperature values;

for each of the plurality of subareas, dividing each corresponding one of the second plurality of average temperature values by a corresponding one of the second plurality of temperature standard deviations thereby determining a corresponding one of a second plurality of homogeneity of skin temperature values for the plurality of subareas;

determining a second average homogeneity of skin temperature value from the second plurality of homogeneity of skin temperature values; and

analyzing the first and second pluralities of homogeneity of skin temperature values for each of the plurality of subareas,

wherein when a spatial distribution of first plurality of homogeneity of skin temperature values corresponding to a cluster comprising at least six adjacent subareas is less than about 20% or more than about 100% of the first average homogeneity of skin temperature value, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second plurality of homogeneity of skin temperature values corresponding to the cluster is less than about 20% or more than about 100% of the second average homogeneity of skin temperature value, tissue corresponding to the cluster is confirmed to be diseased.

17. A method of detecting diseased tissue in accordance with claim 16, wherein analyzing the first and second pluralities of homogeneity of skin temperature values for each of the plurality of subareas further includes:

determining a first contributing frequency of the first plurality of homogeneity of skin temperature values for each of the plurality of subareas using the first series of thermal images;

determining first lower and upper threshold frequencies using the first contributing frequency of each of the subareas;

determining a second contributing frequency of the second plurality of homogeneity of skin temperature values for each of the plurality of subareas using the second series of thermal images; and

determining second lower and upper threshold frequencies using the second contributing frequency of each of the subareas,

wherein when a first spatial distribution of contributing frequencies of the cluster is less than the first lower threshold frequency or more than the first upper threshold frequency, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second contributing frequencies of the cluster is

less than the second lower threshold frequency or more than the second upper threshold frequency, tissue corresponding to the cluster is confirmed to be diseased.

18. A method of detecting diseased tissue in accordance with claim 16, wherein analyzing the first and second pluralities of homogeneity of skin temperature values for each of the plurality of subareas further includes:

determining a first contributing frequency of the first plurality of homogeneity of skin temperature values for each of the plurality of subareas using the first series of thermal images;

determining a first average amplitude of the first contributing frequency for the plurality of subareas;

determining a second contributing frequency of the second plurality of homogeneity of skin temperature values for each of the plurality of subareas using the second series of thermal images; and

determining a second average amplitude of the second contributing frequency for the plurality of subareas,

wherein when a spatial distribution of first amplitudes of first contributing frequencies of the cluster is less than about 20% or more than about 100% of the first average amplitude, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second amplitudes of second contributing frequencies of the cluster is less than about 20% or more than about 100% of the second average amplitude, tissue corresponding to the cluster is confirmed to be diseased.

19. A method of detecting diseased tissue in accordance with claim 16, wherein analyzing the first and second pluralities of average temperature values for each of the plurality of subareas further includes analyzing the first and second pluralities of average temperature values for each of the plurality of subareas using a fast Fourier transform analysis.

20. A method of detecting diseased tissue in accordance with claim 16, wherein the first and second series of infrared images of the predetermined area of tissue are recorded when the predetermined area of tissue is subjected to a thermal stress.

21. A method of detecting diseased tissue in accordance with claim 20, wherein the thermal stress is induced by a flow of air.

22. A method of detecting diseased tissue in accordance with claim 20, wherein the thermal stress is induced by a water mist.

23. A method of detecting diseased tissue comprising:

recording first and second series of infrared images of a predetermined area of tissue, the first and second series of infrared images recorded in respective first and second bands of infrared wavelengths, the second band of infrared wavelengths different from the first band of infrared wavelengths;

converting the first and second series of infrared images into corresponding first and second series of thermal images having a plurality of subareas;

determining a first plurality of average temperature values and a first plurality of temperature standard deviations for each of the plurality of subareas, each of the first plurality of average temperature values and each of the first plurality of temperature standard deviations corresponding to each of the plurality of subareas determined from a corresponding one of the first series of thermal images;

determining a first average temperature standard deviation from the first plurality of temperature standard deviations;

determining a second plurality of average temperature values and a second plurality of temperature standard deviations for each of the plurality of subareas, each of the second plurality of average temperature values and each of the second plurality of temperature standard deviations corresponding to each of the plurality of subareas determined from a corresponding one of the second series of thermal images;

determining a second average temperature standard deviation from the second plurality of temperature standard deviations; and

analyzing the first and second pluralities of temperature standard deviations for each of the plurality of subareas,

wherein when a spatial distribution of first plurality of temperature standard deviations corresponding to a cluster comprising at least six adjacent subareas is less than about 20% or more than about 100% of the first average temperature standard deviation, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second plurality of temperature standard deviations corresponding to the cluster is less than about 20% or more than about 100% of

the second average temperature standard deviation, tissue corresponding to the cluster is confirmed to be diseased.

24. A method of detecting diseased tissue in accordance with claim 23, wherein analyzing the first and second pluralities of temperature standard deviations for each of the plurality of subareas further includes:

determining a first contributing frequency of the first plurality of temperature standard deviations for each of the plurality of subareas using the first series of thermal images;

determining first lower and upper threshold frequencies using the first contributing frequency of each of the subareas;

determining a second contributing frequency of the second plurality of temperature standard deviations for each of the plurality of subareas using the second series of thermal images; and

determining second lower and upper threshold frequencies using the second contributing frequency of each of the subareas,

wherein when a spatial distribution of first contributing frequencies of the cluster is less than the first lower threshold frequency or more than the first upper threshold frequency, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second contributing frequencies of the cluster is less than the second lower threshold frequency or more than the second upper threshold frequency, tissue corresponding to the cluster is confirmed to be diseased.

25. A method of detecting diseased tissue in accordance with claim 23, wherein analyzing the first and second pluralities of temperature standard deviations for each of the plurality of subareas further includes:

determining a first contributing frequency of the first plurality of temperature standard deviations for each of the plurality of subareas using the first series of thermal images;

determining first lower and upper threshold amplitudes of the first contributing frequency for the plurality of subareas;

determining a second contributing frequency of the second plurality of temperature standard deviations for each of the plurality of subareas using the second series of thermal images; and

determining second lower and upper threshold amplitudes of the second contributing frequency for the plurality of subareas,

wherein when a spatial distribution of first amplitudes of first contributing frequencies of the cluster is less than the first lower threshold amplitude or more than the first upper threshold amplitude, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second amplitudes of second contributing frequencies of the cluster is less than the second lower threshold amplitude or more than the second upper threshold amplitude, tissue corresponding to the cluster is confirmed to be diseased.

26. A method of detecting diseased tissue in accordance with claim 23, wherein analyzing the first and second pluralities of temperature standard deviations for each of the plurality of subareas further includes analyzing the first and second pluralities of temperature standard deviations for each of the plurality of subareas using a fast Fourier transform analysis.

27. A method of detecting diseased tissue in accordance with claim 23, wherein the first and second series of infrared images of the predetermined area of tissue are recorded when the predetermined area of tissue is subjected to a thermal stress.

28. A method of detecting diseased tissue in accordance with claim 27, wherein the thermal stress is induced by a flow of air.

29. A method of detecting diseased tissue in accordance with claim 27, wherein the thermal stress is induced by a water mist.

30. An apparatus for detecting diseased tissue comprising:

an imager for recording first and second series of infrared images of a predetermined area of tissue, the first and second series of infrared images recorded in respective first and second bands of infrared wavelengths, the second band of infrared wavelengths different from the first band of infrared wavelengths;

a converter for converting the first and second series of infrared images into corresponding first and second series of thermal images having a plurality of subareas;

an averager for determining a first plurality of average temperature values for each of the plurality of subareas, each of the first plurality of average temperature values for each of the plurality of subareas determined from a corresponding one of the first series of thermal images, the averager for determining a first average temperature using the first plurality of average temperature values, the averager for determining a second plurality of average temperature values for each of the plurality of subareas, each of the second plurality of average temperature values for each of the plurality of subareas determined from a corresponding one of the second series of thermal images, and the averager for determining a second average temperature using the second plurality of average temperature values; and

an analyzer for analyzing the first and second pluralities of average temperature values for each of the plurality of subareas,

wherein when a spatial distribution of the first plurality of average temperature values corresponding to a cluster comprising at least six adjacent subareas is less than about 20% or more than about 100% of the first average temperature, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when the tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of the second plurality of average temperature values corresponding to the cluster is less than about 20% or more than about 100% of the second average temperature, tissue corresponding to the cluster is confirmed to be diseased.

31. An apparatus for detecting diseased tissue in accordance with claim 30, further comprising a frequency analyzer for determining a first contributing frequency of the first plurality of average temperature values for each of the plurality of subareas using the first series of thermal images, the frequency analyzer for determining first lower and upper threshold frequencies using the first contributing frequency of each of the subareas, the frequency analyzer for determining a second contributing frequency of the second plurality of average temperature values for each of the plurality of subareas using the second series of thermal images, and the frequency analyzer for determining second lower and upper threshold frequencies using the second contributing frequency of each of the subareas,

wherein the analyzer is further adapted for analyzing the first and second contributing frequencies for each of the plurality of subareas,

wherein when a spatial distribution of first contributing frequencies of the cluster is less than the first lower threshold frequency or more than the first upper threshold frequency, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second contributing frequencies of the cluster is less than the second lower threshold frequency or more than the second upper threshold frequency, tissue corresponding to the cluster is confirmed to be diseased.

32. An apparatus for detecting diseased tissue in accordance with claim 30, further comprising a frequency analyzer for determining a first contributing frequency of the first plurality of average temperature values for each of the plurality of subareas using the first series of thermal images, the frequency analyzer for determining a first average amplitude using the first contributing frequency for the plurality of subareas, the frequency analyzer for determining a second contributing frequency of the second plurality of average temperature values for each of the plurality of subareas using the second series of thermal images, and the frequency analyzer for determining a second average amplitude using the second contributing frequency for the plurality of subareas,

wherein the analyzer is further adapted for analyzing the first and second

contributing frequencies for each of the plurality of subareas,

wherein when a spatial distribution of first amplitudes of first contributing frequencies of the cluster is less than about 20% or more than about 100% of the first average amplitude, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second amplitudes of second contributing frequencies of the cluster is less than about 20% or more than about 100% of the second average amplitude, tissue corresponding to the cluster is confirmed to be diseased.

33. An apparatus for detecting diseased tissue in accordance with claim 30, wherein the analyzer further uses a fast Fourier transform analysis.

34. An apparatus for detecting diseased tissue comprising:

an imager for recording first and second series of infrared images of a predetermined area of tissue, the first and second series of infrared images recorded in respective first and second bands of infrared wavelengths, the second band of infrared wavelengths different from the first band of infrared wavelengths, the imager for recording first and second radiance measurements at respective first and second bands of infrared wavelengths of known healthy tissue;

a converter for converting the first and second series of infrared images into corresponding first and second series of thermal images having a plurality of subareas;

an averager for determining a first plurality of average temperature values for each of the plurality of subareas, each of the first plurality of average temperature values for each of the plurality of subareas determined from a corresponding one of the first series of thermal images, the averager for determining a second plurality of average temperature values for each of the plurality of subareas, each of the second plurality of average temperature values for each of the plurality of subareas determined from a corresponding one of the second series of thermal images;

a correlator for correlating the first and second radiance measurements of known healthy tissue, the correlator for correlating the first and second plurality of average temperature values for each of the plurality of subareas; and

an analyzer for analyzing the correlated first and second plurality of average temperature values for each of the plurality of subareas,

wherein when a spatial distribution of slopes of the correlated first and second plurality of average temperature values corresponding to a cluster comprising at least six adjacent subareas is different from a slope of the correlation of known healthy skin, tissue corresponding to the cluster is determined to be diseased.

35. An apparatus for detecting diseased tissue in accordance with claim 34, wherein the imager records the first and second radiance measurements as a function of the group consisting of integration time, temperature and a combination thereof.

36. An apparatus for detecting diseased tissue in accordance with claim 34, wherein the correlator correlates the first and second radiance measurements of known healthy tissue at a neuronal frequency, and

wherein the correlator correlates the first and second plurality of average temperature values at the neuronal frequency.

37. An apparatus for detecting diseased tissue in accordance with claim 34, wherein the correlator correlates the first and second radiance measurements of known healthy tissue at a nitric oxide-controlled frequency, and

wherein the correlator correlates the first and second plurality of average temperature values at the nitric oxide-controlled frequency.

38. An apparatus for detecting diseased tissue in accordance with claim 34, further comprising means for subjecting the predetermined area of tissue to a thermal stress when the imager records the first and second series of infrared images of the predetermined area of tissue.

39. An apparatus for detecting diseased tissue in accordance with claim 38, wherein the means for subjecting creates a flow of air.

40. An apparatus for detecting diseased tissue in accordance with claim 38, wherein the means for subjecting creates a water mist.

41. An apparatus for detecting diseased tissue comprising:

an imager for recording first and second series of infrared images of a predetermined area of tissue, the first and second series of infrared images recorded in respective first and second bands of infrared wavelengths, the second band of infrared wavelengths different from the first band of infrared wavelengths, the imager for recording first and second radiance measurements at respective first and second bands of infrared wavelengths of known healthy tissue;

a converter for converting the first and second series of infrared images into corresponding first and second series of thermal images having a plurality of subareas;

an averager for determining a first plurality of average temperature values for each of the plurality of subareas, each of the first plurality of average temperature values for each of the plurality of subareas determined from a corresponding one of the first series of thermal images, and the averager for determining a second plurality of average temperature values for each of the plurality of subareas, each of the second plurality of average temperature values for each of the plurality of subareas determined from a corresponding one of the second series of thermal images;

a correlator for correlating the first and second radiance measurements of known healthy tissue, the correlating the first and second plurality of average temperature values for each of the plurality of subareas; and

an analyzer for analyzing the correlated first and second plurality of average temperature values for each of the plurality of subareas,

wherein when an intercept of the correlated first and second plurality of average temperature values corresponding to a cluster comprising at least six adjacent subareas is different from an intercept of the correlation of known healthy skin, tissue corresponding to the cluster is determined to be diseased.

42. An apparatus for detecting diseased tissue in accordance with claim 41, wherein the imager records the first and second radiance measurements as a function of the group consisting of integration time, temperature and a combination thereof.

43. A method of detecting diseased tissue in accordance with claim 41,

wherein the correlator correlates the first and second radiance measurements of known healthy tissue at a neuronal frequency, and

wherein the correlator correlates the first and second plurality of average temperature values at the neuronal frequency.

44. A method of detecting diseased tissue in accordance with claim 41,

wherein the correlator correlates the first and second radiance measurements of known healthy tissue at a nitric oxide-controlled frequency, and

wherein the correlator correlates the first and second plurality of average temperature values at the nitric oxide-controlled frequency.

45. An apparatus for detecting diseased tissue comprising:

an imager for recording first and second series of infrared images of a predetermined area of tissue, the first and second series of infrared images recorded in respective first and second bands of infrared wavelengths, the second band of infrared wavelengths different from the first band of infrared wavelengths;

a converter for converting the first and second series of infrared images into corresponding first and second series of thermal images having a plurality of subareas;

a processor for determining a first plurality of average temperature values and a first plurality of temperature standard deviations for each of the plurality of subareas, each of the first plurality of average temperature values and each of the first plurality of temperature standard deviations corresponding to each of the plurality of subareas determined from a corresponding one of the first series of thermal images, the processor for determining a second plurality of average temperature values and a second plurality of temperature standard deviations for each of the plurality of subareas, each of the second plurality of average temperature values and each of the second plurality of temperature standard deviations corresponding to each of the plurality of subareas determined from a corresponding one of the second series of thermal images, for each of the plurality of subareas, the processor for dividing each corresponding one of the first plurality of average temperature values by a corresponding one of the first plurality of temperature standard deviations thereby determining a corresponding one of a first plurality of homogeneity of skin temperature values for the plurality of subareas, the processor for determining a first average homogeneity of skin temperature value from the first plurality of homogeneity of skin temperature values, for each of the plurality of subareas, the processor for dividing each corresponding one of the second plurality of average temperature values by a corresponding one of the second plurality of temperature standard deviations thereby determining a corresponding one of a second plurality of homogeneity of skin temperature values for the plurality of subareas, and the processor for determining a second average homogeneity of skin temperature value from the second plurality of homogeneity of skin temperature values; and

an analyzer for analyzing the first and second pluralities of homogeneity of skin temperature values for each of the plurality of subareas,

wherein when a spatial distribution of first plurality of homogeneity of skin temperature values corresponding to a cluster comprising at least six adjacent subareas is less than about 20% or more than about 100% of the first average homogeneity of skin temperature value, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second plurality of homogeneity of skin temperature values corresponding to the cluster is less than about 20% or more than about 100% of the second average homogeneity of skin temperature value, tissue corresponding to the cluster is confirmed to be diseased.

46. An apparatus for detecting diseased tissue in accordance with claim 45, further comprising:

a frequency analyzer for determining a first contributing frequency of the first plurality of homogeneity of skin temperature values for each of the plurality of subareas using the first series of thermal images, the frequency analyzer for determining first lower and upper threshold frequencies using the first contributing frequency of each of the subareas, the frequency analyzer for determining a second contributing frequency of the second plurality of homogeneity of skin temperature values for each of the plurality of subareas using the second series of thermal images, and the frequency analyzer for determining second lower and upper threshold frequencies using the second contributing frequency of each of the subareas,

wherein the analyzer is further adapted for analyzing the first and second contributing frequencies for each of the plurality of areas,

wherein when a first spatial distribution of contributing frequencies of the cluster is less than the first lower threshold frequency or more than the first upper threshold frequency, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second contributing frequencies of the cluster is

less than the second lower threshold frequency or more than the second upper threshold frequency, tissue corresponding to the cluster is confirmed to be diseased.

47. An apparatus for detecting diseased tissue in accordance with claim 45, further comprising a frequency analyzer for determining a first contributing frequency of the first plurality of homogeneity of skin temperature values for each of the plurality of subareas using the first series of thermal images, the frequency analyzer for determining a first average amplitude of the first contributing frequency for the plurality of subareas, the frequency analyzer for determining a second contributing frequency of the second plurality of homogeneity of skin temperature values for each of the plurality of subareas using the second series of thermal images, and the frequency analyzer for determining a second average amplitude of the second contributing frequency for the plurality of subareas,

wherein when a spatial distribution of first amplitudes of first contributing frequencies of the cluster is less than about 20% or more than about 100% of the first average amplitude, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second amplitudes of second contributing frequencies of the cluster is less than about 20% or more than about 100% of the second average amplitude, tissue corresponding to the cluster is confirmed to be diseased.

48. An apparatus for detecting diseased tissue in accordance with claim 45, wherein the analyzer further uses a fast Fourier transform analysis.

49. An apparatus for detecting diseased tissue in accordance with claim 45, further comprising means for subjecting the predetermined area of tissue to a thermal stress when the imager records the first and second series of infrared images of the predetermined area of tissue.

50. An apparatus for detecting diseased tissue in accordance with claim 49, wherein the means for subjecting creates a flow of air.

51. An apparatus for detecting diseased tissue in accordance with claim 49, wherein the means for subjecting creates a water mist.

52. An apparatus for detecting diseased tissue comprising:

an imager for recording first and second series of infrared images of a predetermined area of tissue, the first and second series of infrared images recorded in respective first and second bands of infrared wavelengths, the second band of infrared wavelengths different from the first band of infrared wavelengths;

a converter for converting the first and second series of infrared images into corresponding first and second series of thermal images having a plurality of subareas;

an averager for determining a first plurality of average temperature values and a first plurality of temperature standard deviations for each of the plurality of subareas, each of the first plurality of average temperature values and each of the first plurality of temperature standard deviations corresponding to each of the plurality of subareas determined from a corresponding one of the first series of thermal images, the averager for determining a first average temperature standard deviation from the first plurality of temperature standard deviations, the averager for determining a second plurality of average temperature values and a second plurality of temperature standard deviations for each of the plurality of subareas, each of the second plurality of average temperature values and each of the second plurality of temperature standard deviations corresponding to each of the plurality of subareas determined from a corresponding one of the second series of thermal images, and the averager for determining a second average temperature standard deviation from the second plurality of temperature standard deviations; and

and an analyzer for analyzing the first and second pluralities of temperature standard deviations for each of the plurality of subareas,

wherein when a spatial distribution of first plurality of temperature standard deviations corresponding to a cluster comprising at least six adjacent subareas is less than about 20% or more than about 100% of the first average temperature standard deviation, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second plurality of temperature standard deviations corresponding to the cluster is less than about 20% or more than about 100% of the second average temperature standard deviation, tissue corresponding to the cluster is confirmed to be diseased.

53. An apparatus for detecting diseased tissue in accordance with claim 52, further comprising a frequency analyzer for determining a first contributing frequency of the first plurality of temperature standard deviations for each of the plurality of subareas using the first series of thermal images, the frequency analyzer for determining first lower and upper threshold frequencies using the first contributing frequency of each of the subareas, the frequency analyzer for determining a second contributing frequency of the second plurality of temperature standard deviations for each of the plurality of subareas using the second series of thermal images, and the frequency analyzer for determining second lower and upper threshold frequencies using the second contributing frequency of each of the subareas,

wherein the analyzer is further adapted for analyzing the first and second contributing frequencies for each of the plurality of subareas,

wherein when a spatial distribution of first contributing frequencies of the cluster is less than the first lower threshold frequency or more than the first upper threshold frequency, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second contributing frequencies of the cluster is less than the second lower threshold frequency or more than the second upper threshold frequency, tissue corresponding to the cluster is confirmed to be diseased.

54. An apparatus for detecting diseased tissue in accordance with claim 52, further comprising a frequency analyzer for determining a first contributing frequency of the first plurality of temperature standard deviations for each of the plurality of subareas using the first series of thermal images, the frequency analyzer for determining first lower and upper threshold amplitudes of the first contributing frequency for the plurality of subareas, the frequency analyzer for determining a second contributing frequency of the second plurality of temperature standard deviations for each of the plurality of subareas using the second series of thermal images, and the frequency analyzer for determining second lower and upper threshold amplitudes of the second contributing frequency for the plurality of subareas,

wherein the analyzer is further adapted for analyzing the first and second contributing frequencies for each of the plurality of subareas,

wherein when a spatial distribution of first amplitudes of first contributing frequencies of the cluster is less than the first lower threshold amplitude or more than the first upper threshold amplitude, tissue corresponding to the cluster is preliminarily determined to be diseased, and

wherein when tissue corresponding to the cluster is preliminarily determined to be diseased and when a spatial distribution of second amplitudes of second contributing frequencies of the cluster is less than the second lower threshold amplitude or more than the second upper threshold amplitude, tissue corresponding to the cluster is confirmed to be diseased.

55. An apparatus for detecting diseased tissue in accordance with claim 52, wherein the analyzer further uses a fast Fourier transform analysis.

56. An apparatus for detecting diseased tissue in accordance with claim 52, further comprising means for subjecting the predetermined area of tissue to a thermal stress when the imager records the first and second series of infrared images of the predetermined area of tissue.

57. An apparatus for detecting diseased tissue in accordance with claim 56, wherein the means for subjecting creates a flow of air.

58. An apparatus for detecting diseased tissue in accordance with claim 56, wherein the means for subjecting creates a water mist.